TMF

September 1989

THE MAC FLYER - For Greater Safety in MAC Air Operations

ANY TIME ANY PLACE

The 1st SOW . . . page 16

TMF

THE MAC FLYER—For Greater Safety in MAC Air Operations

September 1989 MACSP 127-5 VOL XXXVI NO. 9

page 8

page 16

FEATURES

3 Into the Abyss
Safety is always first—never in the "back seat."

7 Tips From a Wing Tip Dinger
Taxi mishaps—they happen to everyone.

8 Hunting Doves and Other Traffic
Mac MacKenzie seeks both.

11 Harry
Is everyone aircraft commander material?

16 The 1st Special Operations Wing
Night flyers of the Emerald Coast.

21 Mother Greeneye is Watching
TMF anniversary reprint.

24 The Way It's Done!
An inside look at a "test flight."

DEPARTMENTS

6 Excellence In Airmanship
12 Mishap With A Moral
19 Flying-Hour Milestones
27 Quickstoppers
31 After Deadlines

Gen. Duane H. Cassidy — Commander in Chief
Brig. Gen. James L. Cole, Jr. (Sel) — Inspector General
Col. Thomas M. James — Director of Safety

Lt. Col. Richard L. Buck — Supervising Editor
Maj. Dale E. Van De Ven — Associate Editor
Maj. Stephen E. Behr — Associate Editor
Mrs. Frances A. Caldwell — Writer/Editor
Mr. Tommy F. O'Laughlin — Art Director

The MAC Flyer is published by the Director of Safety, Military Airlift Command. The contents are informative and not regulatory or directive. Names of people and places in mishap stories are representative and not necessarily of the aircraft or equipment involved. Information in any article may not be construed as incriminating under Article 31, UCMJ.

Contributions, comments, and criticisms are welcomed. Write: *The MAC Flyer*, HQ MAC/IGFE, Scott AFB, IL 62225-5101. Or call Autovon: 576-3534/5542 or commercial: (618) 256-3534/5542. The editors reserve the right to make editorial changes in manuscripts which they believe will improve the material without altering the author's intended meaning.

Subscriptions are available from: The Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Changes of address for subscription mailing should be sent to the GPO. Give both old and new address, including zip codes. USAF Active and Air Reserve Forces units should establish magazine requirements through the OPR (HQ MAC/IGFE). Other U. S. Military units should consult administrative directives. *The MAC Flyer* is published at an approximate ratio of one magazine for every five MAC crewmembers, and one for every twenty MAC support personnel. Distribution: X: OPR: HQ MAC/IGFE ISSN 0024-718X

There is only one correct decision . . .

Into The Abyss

By Capt. Philip A. Bossert, Jr.
18 MAS, McGuire AFB, New Jersey

Hostages had been taken. Scores had been killed. A city was under siege. And as the world watched in horror, time began to quickly run out.

Like most crises of the early Twenty-First Century, the U.S. military was called to play a key role, and a crucial portion of that role was strategic airlift. Since the advent of the INF agreements of the late '80s and early '90s, conventional forces had gained importance relative to nuclear weapons, and airlift was now universally recognized as an indispensable and tremendously powerful diplomatic tool. In a few hours, this tool would be used in a daring display of national power and resolve.

Only sixteen hours after the State Department had notified the Department of Defense of the serious situation in Swashie, capital city of the newly independent Republic of Southwestern Congo, two C-17s from McGuire AFB, New Jersey, were beginning their coast out over Long Island. They were the lead ships for a much larger air assault force at a South Carolina AFB, which would be launching in eight hours.

At the controls of the lead ship, Capt. Robert (Bob) Hathaway was deep in thought now that they were at cruise and had three hours until their first of two air refuelings. It'd been only a few hours since his briefing at 21st Air Force ops center. One phrase from that briefing was constantly in his mind, *"Even in contingencies, safety must never, never be compromised."*

The colonel who had briefed was right. What sense would the entire operation make if forty crewmen and special forces folks were killed saving eighty-two American hostages?

The entire operation was ingenious. Two C-17s would bring the combat control teams, special forces security troops, and a 101st Airborne engineers platoon into the area prior to the major assault. This point group would secure the area, prepare the landing zone, set up the microwave landing system, and establish contact with in-country operatives. Once these tasks were completed, a six-ship of C-17s, escorted by VSTOL-ATF "stealth" fighters from an aircraft carrier, would arrive to complete the rescue.

The success of the entire operation rested upon Hathaway's crew and Capt. Curt Morgan and his men in the second ship. As they coasted out, the pressure for mission completion began building. It wasn't noticeable at first, but it was there, in the back of everyone's mind.

1989 MAC Flight Safety Writing Contest Third Place

Captain Hathaway, a twenty-nine-year-old, highly experienced pilot, respected by his peers for not only his flying skills but also for his affable personality, was, on the surface, relaxed. But inside, he was thinking at double time, anxious and apprehensive about the next twelve and one-half hours.

This was to be one of his most demanding missions, not only because of the double ARs, but also because of the obvious challenges the destination presented.

Luckily, he had an outstanding crew. 1st Lt. Jeff Weaver, a sharp first pilot, ambitious and eager; and 1st Lt. Jack Newton, his quiet copilot, a systems expert who did his job smoothly and efficiently. And finally MSgt. Frank Reynolds, a "salt of the earth, no job is too big" type NCO, rounded out his crew. Hathaway would go to war with any of these men in a heartbeat, which was exactly what he was doing now.

The first seven hours of the mission went well, with both autopilot-controlled air refuelings going smoothly. Ever since the dawn of the completely automated air refueling system (CAARS) in the mid '90s, AR was now a breeze, with the pilot there only for emergencies.

But forty-five minutes after the second AR, trouble struck. Oil pressure on Number 1 engine suddenly dropped below limits, and neither tapping on the gauge nor resetting circuit breakers would correct it. When oil temperature on Number 1 began rising precipitously, the problem was confirmed.

In a deadly serious voice Hathaway announced, "Crew, looks like we're going to have to shut Number 1 down. Any questions or comments?"

There were none, only agreement from the other pilots. The loadmaster was in the rear bunk, resting.

With the expertise for which Hathaway was known, he pointed to the Number 1 engine fire "T" handle and said, "Confirm Number 1 engine!"

"Confirmed," acknowledged his right-seater.

Hathaway then pulled the "T" handle, and when he decided the engine was indeed shut down, commanded the engine shutdown checklist be read.

"What's the plan? Terminate?"

With that accomplished, their real work began.

After the crippled C-17 stabilized at its three-engine altitude, the second ship sent a message over the laser-optical secure transmission system (LOSTS). The message spread across the center CRT read: "What the hell is going on?"

Hathaway whispered to himself, "Curt Morgan never was short on words." He then typed into his LOSTS, "Shut down Number 1 engine for low oil pressure. Will inform shortly of plan."

As Hathaway pressed the transmit switch, Newton asked, "Sir, isn't our only plan of action to terminate the mission?"

Silence inundated the cockpit as the full implication of Newton's statement sunk in. But like any good aircraft commander, Hathaway immediately took charge and stated, "Guys, listen up. Get Reynolds; we're going to have a discussion about our plan of attack."

After Newton informed Reynolds of the situation, Hathaway started the discussion by stating, "First, copilot's plane."

Weaver acknowledged, "Copilot's plane."

And then, with the finesse of someone who had been through several sessions of cockpit resource management and mission oriented simulator training, Hathaway stated, "Look guys, this is the situation. We have 110,000 pounds of fuel, we're two hours, forty-two minutes from destination, and we've lost one engine. Our TOLD computer states we can make it there and back out with three engines, but it's a high threat environment, and AAA or a SAM could easily knock one of the other engines out, and then we'd be in 'hurt city.' Any suggestions?"

There was silence. They had all gotten the same briefing from 21st, knew the importance of this mission, but also remembered the colonel's warning, *"Even in contingencies, safety must never, never be compromised."*

They were definitely between a rock and a hard place. Weaver interjected, "I can just see the National Security Advisor briefing the President a few hours from now: 'Sir, the mission was aborted because the lead ship ran out of oil in one of its engines!"

With that statement, the pressure to press on increased tenfold. Reynolds finally spoke up. "Sir, let me scan Number 1 engine for a minute."

"Sure," replied a heavily perspiring Hathaway.

Two minutes later, Sergeant Reynolds was back on the flight deck and announced, "It looks like we burst an oil line. Lots of black stuff all over the pylon."

"If only we could crawl out there and fix it!" added Weaver.

The center CRT lit up with a

message from the other plane, "What's the plan? Terminate?"

The pressure in the "boiler" went up further. Hathaway asked Weaver to lower the cockpit temperature and to increase the air circulation. Suddenly, Newton shouted, "Wait, I got an idea!"

All eyes in the plane stared at him as he said, "We're pretty close to the Canary Islands, right?"

"Right," replied Hathaway.

"So why don't we do this. Let's declare an emergency, drop in, buy some oil, fix the line, and press. We'll arrive a few hours late, but if the guys in the back can do their things in five or six hours instead of eight, we'll be in business.

"Sounds pretty wild to me, but it might work," a surprised Hathaway stated.

"What do you think, Curt?"

"Well, I like it. There are risks, but I think it's our best bet at this point."

"Let me tell Number 2 about it and get their reaction. Also, send the major in charge in the back up here."

After a few minutes communicating with Captain Morgan in Number 2 and with Maj. Thompson, OIC of CCT, they decided to go forward with their plan. They would be tight with time, but the major reassured them that five hours was plenty to accomplish their mission.

There were still plenty of "ifs," such as what if they couldn't fix the engine, what if they couldn't get fuel, what if they were compromised? But it was their best and safest plan, and they all decided to go for it. In contingencies such as this, you had to make do with what you had, as long as safety wasn't given a back seat.

It didn't take 21 AF long to respond to their proposed plan, with "We agree, that's the best option—go for it. Good luck."

One hour and nine minutes later, Hathaway began his descent into Tenerife International Airfield as Number 2 sped silently on. When Morgan's ship was safely away, Hathaway broke radio silence by declaring an emergency with Tenerife control using the call sign "Airevac 99212."

In what seemed an eternity, they completed their approach and landed uneventfully; ground control directed them to a civilian airline which was more than happy to have their business. They even sent two mechanics out who quickly fixed their engine, topped it off with fresh oil, and put on 50,000 pounds of fuel.

After they were safely airborne and back on their way, Newton remarked, "I didn't think it would be that easy."

"Don't be too happy yet. We still have the tough part ahead," replied Hathaway.

As they coasted in over Gabon, one hour and fifty two minutes after they departed Tenerife, Hathaway activated the ECM and LANTIRN systems and called for the combat area entry checklist. After this was accomplished, he had a few minutes to reflect on how close they had come to aborting this mission, and how an idea from a new copilot saved it. If they got out of the Congo in one piece, he'd be sure his crew, especially Lieutenant Newton, was recognized for accomplishing the mission—*and accomplishing it safely.*

A few minutes later, as their behemoth C-17 stabilized at 400 knots just a few hundred feet above the dense jungle, the evening darkness ahead lit up as tracers and small arms fire began searching for them. This definitely isn't going to be easy, thought Hathaway. But at least they had all four engines; they had also followed the colonel's advice and their common sense by placing safety first.

It was a decision they would not forget.

Ten hours and twenty-five minutes after Hathaway's C-17 entered the area, the National Security Advisor briskly walked into the President's study.

"Good evening, Mr. President."

"Good evening, Ted. How did the operation go?"

"Very well, sir. We got the hostages out with minor injuries, but we lost one plane."

"Oh, really," said the President, saddened. "Any lives lost?"

"No Sir. The second airlifter lost two engines to flak and small arms fire, but they managed to land safely and accomplish their mission. Since they couldn't fly it out, they destroyed it with incendiary devices."

The President commented, "Must have been a damn good crew to fly it in safely with only two engines."

"Yes sir, a very good crew."

Captain Bossert, a 1982 AF Academy graduate, earned his wings in 1983. A previous AC in the CT-39A and a C-21A instructor pilot, Captain Bossert is currently a C-141 commander in the 18 MAS, McGuire AFB, New Jersey.

Excellence in Airmanship

From left to right: SSgt. Carl H. Viegel; Capt. James D. Marsh, Jr; Capt. Christopher Sucher; MSgt. James C. McCants; TSgt Jerry F. Senecal; 1st Lt. Jon DeClerck, TSgt. Michael B. Hughey. Not pictured: Sgt. Marc A. Hoyle.

Capt. James D. Marsh, Jr., and Crew, 20th Military Airlift Squadron, Charleston AFB, South Carolina, experienced a loss of both primary and backup attitude systems shortly after their C-141 departed McGuire AFB, New Jersey, 24 March 1989. Preflight checks were normal with weather at 500 feet overcast accompanied by gusty winds and rain. At 1,000 feet, the copilot lost his primary attitude source, INS 2, and selected the backup system AHRS. By 3,000 feet, the pilot also selected AHRS after losing INS 1. Shortly thereafter, both pilots realized the backup attitude system was unreliable and began flying the aircraft based on information from the turn needles, airspeed indicators, and HSI compass cards. The copilot declared an emergency, the IFF was set to 7700, and the pilot began climbing in order to achieve visual references. The attitude indicators were now displaying conflicting information, neither of them representing actual aircraft attitude. The crew broke out of weather at FL 383 and headed south hoping to find a suitable field with VMC conditions. Finally, with complete crew coordination, the C-141 landed safely at Charleston. The airmanship and judgment demonstrated by Captain Marsh and crew well deserve the Excellence in Airmanship Award. Congratulations from *TMF*.

Tips From A Wing Tip Dinger

Taxi mishaps—they happen to everyone.

By "Anonymous"

(Editor's Comments: In the interest of showing that "it doesn't only happen to us," we're reprinting an "as it happened to me" article written by an unidentified Canadian crewmember.)

Disgusted with the events that had occurred, I now stared up at my starboard wing tip, still attached to the scaffolding I had unwittingly taxied into. What had happened to cause this, and how could I have prevented its occurrence?

The day had started out in a typical way. Met briefing at 0700Z for a 0900Z departure for Fredericton, pick up a load of Royal Canadian Rangers, and then on to Kingston, Jamaica. Arrival time was scheduled for 1850Z with a 20-hour crew rest prior to returning north. The trip was looking good with an on-time departure, until we tried to pressurize. No luck with the attempted airborne fixes, so it was back to base for repair.

We finally departed for Fredericton at 1030Z with a revised itinerary showing an arrival in Jamaica at 2300Z—a result of strong headwinds forecast on the oceanic leg. En route thunderstorms were forecast for the oceanic portion of our trip and, sure enough, we ran into quite a few heavy rainshowers and turbulence as well as the associated poor HF comm. By the time we reached Grand Turk Island, weather had cleared and things were finally getting more relaxed.

Our first look at Jamaica was highlighted by the line of CBs just north of Norman Manley International and extending northward. As a result of the weather and the typical lack of radar coverage, we were cleared to the Kingston VOR to hold at FL 160 while Air Canada climbed on the SID to cross the VOR at FL 140. Air Canada crossed the VOR northbound early enough for us to be recleared into the hold and we were cleared for the VOR approach and landing, which went off without a hitch. Taxi clearance was to the Jamaican Defense Force (JDF) ramp where we saw the C-130 that had preceded us by two hours—a result of our initial delay.

The first look at the JDF ramp gave an impression of tightness. There was one C-130, numerous King/Queen air type planes, and an Air Jamaican maintenance hangar to pass en route to the marshaller. With Numbers 1 and 4 in normal and Numbers 2 and 3 in low speed, the First Officer, in the left seat, taxied down the yellow line to the JDF ramp. Approaching the maintenance hangar, I cautioned the left seat to slow down, which he did. As the landing time coincided with official sunset, visual clues for taxiing were few, but there appeared to be more than enough room to taxi past the hangar. Of course there was—one of our C-130s had just done it two hours earlier.

Passing the tail of the A300 in the hangar, it became harder to judge clearance. I again cautioned the left seat to slow down and reiterated it when I failed to notice us slowing down. When it again appeared the aircraft had not slowed down, I ordered a stop. During the ten or so feet it took the left seat to stop the aircraft, I watched in horror as my starboard wing tip fought a losing battle with a 60-foot maintenance scaffold.

The success of the other C-130 in taxiing past the scaffolding; the length of crew day; the time of day; the apparent clearance as viewed at the start of the taxiway; failure to notice the narrow taxiway bending towards the scaffolding near the end of the maintenance hangar; all these factors may have contributed to my misjudging available clearance. Put in the same situation now, would I have reacted differently? Any one event, if taken separately, could have prevented the occurrence.

First, putting all our engines in low speed would have provided a slower taxi speed. Second, I would advise my First Officer that the yellow taxi line does not guarantee wing tip clearance and to move the aircraft as far away from the scaffold as possible (only about 10 feet was available). Third, remember that reaction time and method of taxiing in confined areas depend upon experience, not just being a qualified pilot. Therefore, I would have my feet positioned for immediate brake application if required. Lastly, I would deplane a crewmember to ensure marshalling assistance was available for clearance.

The above is a detailed analysis of the events leading up to a damaged C-130 wing tip. Remember, it could happen to anyone. Be especially alert in foreign or unfamiliar airfields. Yellow lines are painted for the aircraft used at that airport, not necessarily yours.

Courtesy *Flight Comment, No. 6, 1988*

Hunting Doves

Slow afternoon of dove hunting .

and Other Traffic

"Nice afternoon for dove hunting, wouldn't ya'say?"

"Yeah, nice day for doves," replied Capt. Brad "Mac" MacKenzie. "I just hope we have a few hits and not so many misses."

"Here come a couple more."

BOOM! BOOM! Shots rang out across the recently harvested cornfield. A pair of doves jinked in the hazy autumn sky and continued down the line of scrub at the edge of the field.

"Mac, notice how these doves keep skirting the open field?"

"Yeah, Jack, it's like an airspace boundary for them. They skirt the edges just like some pilots skirt the edges of a TCA."

"I know what you mean," commented Capt. Jack Riley. "We just received a HATR message about a near mid-air collision over a TCA. Seems a C-21 on vectors across the top of a TCA encountered a pair of F-18s holding just above the upper altitude limit. The OSA bird was being vectored above and across the arrival traffic corridor. The two-ship was holding VFR with tower, while waiting for landing sequence. The holding pattern used by the Hornets coincided with the arrival flight path for the runway being used during peak arrivals for the hub airport. Approach control's radar didn't show a data block for the F-18s—only a symbol without altitude readout. It was easy for the radar controller to miss the F-18 target with all the air carrier traffic moving through the arrival corridor. Both aircraft were being 'controlled' by ATC, one by the arrival controller in RAPCON; the other by the local tower controller."

"F-18s aren't the only flying machines you'll find around the periphery of a TCA," replied Mac. "Many general aviation aircraft just skirt the edges of TCAs. The boundary is intended to keep VFR aircraft out of TCA airspace. However, just as rows of brush guide the doves to fly certain routes, TCA boundaries force VFR aircraft to either climb just above the TCA upper limit, or to skirt the edges. That sets up potential traffic conflicts between IFR and VFR traffic, and leads to incursions by VFR aircraft. Some intruders are identified by using a mode C intruder program which alerts controllers to the presence of non-participating aircraft. If the intruder alert program isn't being used, or is used incorrectly, then the controller becomes the detection system.

"Airline pilots and some military crews think ATC is keeping them clear of VFR traffic by routing them on SIDs or STARs. General aviation pilots believe airspace above the central core of a TCA is "*their*" territory. Both groups of pilots have become very protective about "their" slice of sky. Some SIDs take IFR traffic through the same areas that are so loved by VFR flyers. A SID that reverses direction back over the departure field is a real 'gotcha'—it's leading you into airspace GA pilots love to fly through. STARs help ATC to smooth traffic flow into busy areas, but extends traffic outside TCA limits in airspace that is called home by many VFR operators.

"Satellite or reliever airports around the outer limits of a TCA encourage VFR pilots to operate near the TCA boundary. The *Airman's Information Manual* advises pilots to avoid operating too closely to the floor or ceiling of a TCA. When ATC gets busy, boundary altitudes get filled as controllers stack aircraft during

"Pilots are becoming very protective about 'their' slice of sky."

peak arrival times. Pilots become complacent about operating near the TCA and think only of legal ramifications, not hazards existing in crowded airspace at major airports. It may be necessary to establish formal buffer zones to achieve separation between VFR and IFR traffic at TCA boundaries. VFR charts show the TCA limits, but omit feeder routes where air carrier traffic is heaviest. That means your average VFR operator must do some research to avoid conflicts with IFR traffic.

"We experience some 55 percent of our NMACs in terminal areas, so our pilots need to keep a sharp eye out for civil aircraft."

"Speaking of sharp eyes, here come the doves. You take them Jack."

BOOM! BOOM!

"#-%-*-, they must have some great warning systems! So far we're 'O' for ten."

"Too bad," commiserated Mac. "Anyway, as I was saying, we have a few NMACs ourselves. In over 80 percent of them, the other aircraft is a general aviation type. Our crews transit bases near some busy terminal areas, not just TCAs.

"Southern California is a prime example of congested traffic. The flyers out at Norton have to watch out for VFR traffic skirting along mountain ranges, going from one pass to another. The GA pilots have charts showing those VFR routes, while IFR charts used by our crews don't show these VFR flyways. Approach control's favorite arrival vectors from the north take you across and descend you through the recommended VFR altitudes. Everyone should be looking outside the cockpit when you're flying that arrival. If vis is better than WOXOF, the smog and scud runners will be out cruising. California is one of the leading states for NMACs, Florida and Texas are close behind."

"So *it's* not just TCA boundaries that lead to problems?"

"Correct, Jack. Natural boundaries, restricted areas, and warning areas can have the same effect of crowding aircraft operators into a given area. Operating in a restricted area doesn't mean you're exempt from being part of a NMAC.

"An MC-130 entered an overseas training area for a high speed, low level airdrop; about ten seconds before green light, a third pilot saw a helicopter converging on their flight path. The Herk pilot pulled up and away from the helo, and passed 100-150 feet above the intruder. The crew on the helo didn't take evasive action, they just continued on course. A radio call to range control by the agitated -130 crew, found the helo wasn't on an authorized flight into the restricted area, nor in radio contact with the range control folks. Radar coverage of the restricted area isn't available to the range controllers, and if it was it would be limited in tracking aircraft operating at treetop level. Since weather was VMC, users are required to apply 'see-and-avoid' for separation. Normal helicopter range operations are conducted at 200-feet AGL, and normal C-130 low level routes are planned for 500-feet AGL in the training area. The MC-130 was flying at 250-feet AGL, down where the helos conduct their normal day-to-day operations. That extra set of eyes in the MC-130 cockpit helped avoid a near disaster, as the other crew members were concentrating on DZ alignment and completion of the pre-drop checklist. Since the helo didn't take any action, they must not have seen the Herk, plus they wouldn't expect C-130 traffic to be down below 500 feet AGL."

"Sounds like those helo pilots were expecting their airspace to be clear of all other traffic. It looks like all pilots are territorial about operating airspace."

"As the sky becomes congested, 'see-and-avoid' becomes more than just a catch phrase, it becomes the golden rule for flying. 'See and avoid others as you would have them avoid you' is a concept you can live by."

"Hey," exclaims Jack, "I see two doves headed this way, now if they'll just keep coming . . ."

BOOM! BOOM!

"Nice shot, *it's* about time you got one. I was beginning to think the doves were practicing 'see-and-avoid' to our birdshot," teased Jack.

"One dove isn't going to make a large pie, Jack. At the rate we're using shells, the ammo salesman will be able to retire early. One dove per box of shells is nothing to brag about."

"No one said it was going to be easy."

Harry

Wringing it out just one more time.

By Lt. Daniel B. Abel, USCG
Coast Guard Air Station Miami

He reached far back into the dark part of his closet. Past the old suits (that didn't fit) he could see the vinyl cover of the garment bag. With a lot of pulling and tugging he finally got the lumpy bag into the open. All this trouble for Harry, he thought. If it weren't for that guy, I could be propped in front of the Redskins game right now.

He hung the garment bag on top of the door and unzipped the side. Carefully, he pulled his dress uniform out from between his mess dress and topcoat. Thanks Harry, he thought, again.

I really should be easier on the guy. Harry really took the base by storm when he arrived from flight school. Sure was one confident stick—almost on the verge of cocky. But, he thought, smiling widely, he sure could tell a great flight story. Harry was never at loss for a tall tale to help ease down the next round of cold ones.

He carefully placed his ribbons above the pocket and pushed the pins through the cloth of the blouse.

Harry sure had a lot of ammo for those stories, though. Anyone who had flown with him knew he was a little wild on the controls. He loved to push that airframe to its limits. Maybe even a little farther than that a time or two. Harry lived for those steep bank angles, high nose pitchups, and rapid descents. When it came to going fast—the lower the better. If someone would utter a comment as to the safety of the whole thing, he would just chuckle and say, "Aw, it makes ya feel like you're really moving out!" What was that phrase of his? "Just wringin' her out,"—that was his favorite.

He pulled his uniform shirt from the dry cleaner bag and slipped it on. The collar felt a bit snug as he fastened its button. He moved in front of the mirror to work on the tie.

Some people were surprised when Harry made aircraft commander. As a copilot or first pilot, he'd have somebody in the cockpit to put the kabosh on his antics if they got too out of hand. But, he had the hours and the time on station to be slid into the syllabus. Scuttlebutt was that the "higher-ups" figured the aircraft commander designation would mature him a bit. You know, now that he signs for the plane, he's going to be a little bit more attentive to getting it back in one piece. Besides, Harry was just Harry. Every base probably has one Harry. Anyway, making aircraft commander was *due* him. If they had waited longer to upgrade him, it would have looked bad. You know . . . stationed there forever and never made AC? Can kill a guy's career like that.

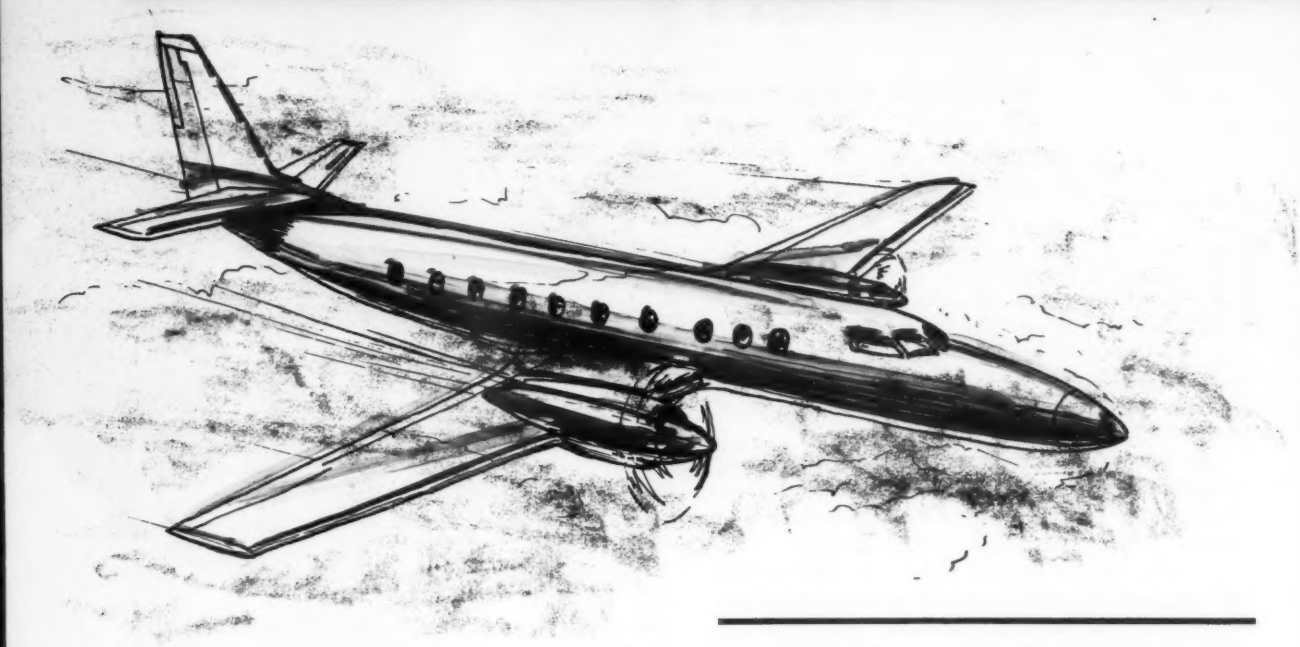
He slipped the tiebar on his tie. With a little brasso, the belt buckle began to shine. He slid the belt through the loops. The dress trousers had been saved for special occasions and hardly been worn.

Boy, were they way off base about Harry making aircraft commander. Now, he took the new guys out and showed them all "the tricks they never taught you in flight school." His hotdogging had caught on. The new guys were really taking their cues from flights with Harry, "the old pro."

We're in for a whole generation of Harrys, he mused. The sorry fact was, Harrys can talk a sortie better than fly one.

He pulled his uniform jacket off the hanger and slipped it on. Already he knew this was going to be a hot afternoon. He placed his "inspection" cap on his head and gave himself a last look in the mirror. With a quick wipe of the rag across the shoes, he was on his way downstairs.

He squinted his eyes in the brutal noonday sun and got in the car. After donning his shades, he drove off to watch them bury what they had found of Harry and his crew.



(Editor's Comments: We all have days when a cold or flu is about to hit us, but the symptoms aren't bad enough to go see the flight docs. So, rather than miss a good trip or get on the scheduler's hit list, we fly with "just a little bit of a cold." After all, who wants to pull squadron gopher while DNIF?)

A Lack of Oversight

Foggy Night in Raleigh Town

FLIGHT HISTORY

On 19 February 1988, Air Virginia (AVAir) Flight 3378, a Fairchild Metro III, was scheduled to fly from Raleigh-Durham International Airport (RDU), N.C., to Richmond, Va., with two flightcrew and ten passengers on board.

About 1400 on the 19th, the Captain phoned an AVAir flight controller, informed him he had "upper-respiratory and flu-like" symptoms, and asked if a reserve captain was available to take AVAir 3378. When informed that one would be available, the Captain told the controller he would take the flight as scheduled; however, if his symptoms worsened, he would notify the flight controller. The Captain didn't call in and, after flying as a passenger to RDU from his home in Roanoke, Va., reported for duty one and one half hour before a scheduled 2040 departure time. The First Officer, who lived in the area, also reported

over one and one half hours prior to scheduled takeoff time.

A warm front blanketed the mid-Atlantic states with light drizzle, fog, and low ceilings. Around the time of the mishap, RDU had an indefinite 100-foot obscured ceiling, and surface visibility of one-eighth mile (tower vis was zero miles) in light drizzle and fog. Runway 23R RVR was variable from 3,500 feet to 2,200 feet. Due to RDU's prevailing IMC and proximity of its parallel runways, all flight operations were conducted on Runway 23R. As a result, flights at RDU were delayed, and AVAir Flight 3378 departed the gate about 40 minutes behind schedule.

At 2124:54, Tower cleared AVAir 3378 to taxi into position and hold. The Captain, who had been making all radio calls to ATC, acknowledged. (Company procedures called for the nonflying pilot to perform all communications with ATC.) At 2125:20, Tower directed AVAir 3378 to continue holding and amended its original clearance from maintaining runway heading after departure, to turn right to a heading of 290 degrees. Again the Captain acknowledged. At 2125:49 AVAir 3378 was cleared for an immediate takeoff. At 2126:33, the flight was told to "report established on the 290-degree heading and make that turn as soon as feasible, jet traffic to depart behind you." The Captain responded "three seventy eight." This was the flight's last transmission. At 2131:45, RDU Tower alerted airport crash, fire and rescue units.

The Metro III struck water within 100 feet of the shoreline of a reservoir, about 5,100 feet west of Runway 23R midpoint. The airplane was destroyed and all 12 persons on board killed.

ANALYSIS

The Safety Board examined factors which may have affected AVAir 3378 flight profile. These factors included a malfunction in the pitch trim or the Stall Avoidance System (SAS) and a deficiency in the crew's instrument monitoring or flight control. Examination of recovered components indicated the SAS fault light was on at impact and the clutch switch was in the disengage position. There were no indicaticns of uncommanded stick pusher activation or other system malfunction. The Safety Board concluded the crew turned off SAS in response to an advisory caution light after V_1. Based on AVAir's policy of the nonflying pilot making all radio communications, and the fact the Captain was performing all radio commmunications, the Board believes the First Officer was flying the airplane.

Crew Qualifications

AVAir 3378 was the first and only flight of the day for both pilot and First Officer. The crew was scheduled to fly six sorties the next day and seven more on 21 February.

The Captain was hired by AVAir 10 June 1985, and assigned as First Officer on the Fairchild Metro. In July 1987, he attempted to upgrade and transition to captain on the Short Brothers SD3-30 aircraft. After completing ground school and 16.9 flight hours in six training flights, he left SD3-30 training and returned to Metros. Following the fifth training flight, his instructor commented, "needs more time on one engine work and instrument procedures." Debrief comments from the sixth flight included, "needs more basic instrument work. Also needs more time before check flight." These were the only unfavorable comments in the Captain's record. Shortly after leaving the SD3-30 upgrade program, he successfully qualified as captain on Metros, 29 July 1987. He flew a six-month proficiency check on 18 February, during a three-hour layover between revenue flights at Lynchburg, Va. According to the examiner, the Captain performed as an "average" captain would and described his instrument work as "fine."

The First Officer (FO) was hired 5 May 1987 and assigned to Metros. After completing AVAir's ground school training and 12.7 hours of flight training, she was certificated to fly as a Metro III first officer. She then began "differences" training on Metro II and required 5.8 hours over three flights, each with a different check airman, before qualifying in that aircraft. The first check pilot wrote "she needs more work on landing, having trouble maintaining glide path, speed control, and keeping torques matched on landing." The second check airman, her instructor in Metro III, wrote "refuses to fly aircraft . . . performance unsatisfactory . . . recommend termination." The third examiner, after observing her perform eight takeoffs and landings, qualified her as second-in-command on the Metro II. A former training manager characterized the second check airman as being "extremely critical."

During mid-September 1987, an AVAir captain completed a monthly progress report on the First Officer. The captain described her as "behind the airplane," and wrote "she over-controlled" it and "she had real problems landing." He also noted that chances of successfully completing her one-year probationary period were "questionable." After completing the progress and evaluation report, the

Captain discussed the FO's performance with the company's chief pilot. The chief pilot told the captain that the FO's difficulties resulted from her reaction to a family member's illness.

At the time of the accident the FO had flown 184 hours actual and 57.2 hours simulated instruments. The investigation board found her most recent IMC experience was on 27 Dec 1987, when she made a takeoff with a 400-foot ceiling and one mile visibility.

Like all AVAir pilots, she was layed off 15 Jan 1988 when operations ceased during company reorganization. She was recalled to duty 15 Feb 1988 while out of town and reported for duty on the 17th to fly a two-day trip. All flights on the 17th and 18th were in VMC, characterized as "severe clear" by that captain. This same captain reported her first landings on the two-day trip were very rough, either flaring too soon or not flaring at all.

"... to fly in the most visually restrictive conditions encountered at AVAir."

Crew Actions

Because there was no evidence of an actual aircraft malfunction, the investigation centered on possible crewmember actions which could have led to the mishap. The Safety Board didn't consider demands placed on a pilot performing a takeoff in such restricted visual conditions to be beyond the ability of a crewmember approved for Part 135 operations. Although visibility was severely limited, meteorological conditions didn't prevent safe execution of the flight. Even with subtle pressure placed on the crew by ATC asking, immediately after takeoff, if they had begun a 60-degree turn to the right, a qualified crew should be able to safely execute the maneuver. The board thought a crew trained and certificated to engage in revenue air transport should have effectively resisted ATC pressure to initiate a turn at such low altitude. Given the combination of weather and high workload required during that phase of flight, the AVAir 3378 crew should have climbed straight out to a safe altitude, retracted landing gear and flaps, and then initiated a turn as necessary. Well trained pilots should be aware that a simple "unable" response to ATC is sufficient to inform them the crew will initiate a turn at what they consider a safe altitude. The Safety Board believed the crew should have done so. The Board also believed the crew was faced with additional pressures, many self-induced, which limited their capabilities to perform effectively.

The Captain's ability to monitor flight parameters on initial climbout may have been hampered. He may have been completing after-liftoff procedures, such as retracting landing gear and turning on bleed air. While neither task is particulary demanding, his attention was diverted from monitoring instruments to the point where he wouldn't notice a departure from normal flight profile. His minor physical discomfort was sufficient to degrade his ability to effectively monitor flight parameters. The Captain's illness may have accounted for his decision to allow the FO to fly the leg.

Discussions the Captain had with other AVAir pilots indicate he was aware of the FO's flying difficulties, although there was no evidence he was aware of the extent of those difficulties or that the FO may have never made a takeoff in poor weather conditions. Because severely restricted visibility existed, the Board believed good judgment would have directed the Captain to perform the takeoff himself.

Both crewmembers' records indicate they had difficulties in flying. The Captain encountered problems attempting to upgrade and transition to the SD3-30. But due to the nature of that training, the lack of other unfavorable comments about the Captain's performance, and positive crewmember comments about his abilities in the Metro III, the Safety Board believed those difficulties were unrelated to the quality of his flying the Metro.

On the other hand, the FO's record indicates her piloting abilities were marginal. Much of her record suggests a possible deficiency in basic piloting skills and abilities. Close examination of her difficulties suggests her performance may have deteriorated under stress. Even though the Captain tended toward a relaxed and easygoing cockpit management style, the Board concluded circumstances of the flight and the FO's recent history created a highly stressful situation for her. On the day of the accident, she was to fly in the most visually restrictive conditions encountered at AVAir. Additional stressors included last-minute changes in ATC clearance and a perceived need to turn immediately after liftoff.

The Board believed a distraction, such as a perceived Stall Avoidance System malfunction in the initial phases of flight, increased stress on the FO to the point where her instrument scan deteriorated and

she continued to turn but allowed the plane to descend. Given this vertigo-inducing maneuver began almost immediately after takeoff, it was imperative she perform an adequate instrument scan to maintain control. Radar data depicted a flight profile with no marked departure from a controlled flight path in a turn that was initiated seconds after rotation, but with an initial climb that quickly changed to a descent. Excessive bank angle and insufficient control column back pressure are consistent with the evidence of a FO, relatively inexperienced in IMC, who encounters possible vertigo in a highly stressful situation.

AVAir Management

The Board also examined the actions of AVAir management and FAA surveillance to determine if they were factors in this mishap. From early 1987 to the time of the accident, management created extraordinary conditions for the company, limiting its ability to adequately oversee its operations. During that time, among other things, AVAir moved its operations base several hundred miles, experienced considerable turnover in the management of its pilot operations as well as its pilot force, acquired and then phased out a new aircraft type, dramatically increased its number of pilots, intensively trained pilots and furloughed pilots, significantly altered its route structure, sustained a major accident and finally, filed for bankruptcy. These factors suggest management misjudged critical aspects of financial and operational planning—misjudgements which extended to oversight of the FO's capabilities.

Management was informed of the FO's marginal performance and that her potential for advancement was questionable. There was no evidence AVAIR provided her additional training, or that her performance was monitored more carefully or more often. Evidence suggests that following some initial discussion about her difficulties in differences training, the only action taken after she was qualified to fly as FO was a single progress report dated 15 Sept 1987. The Board believed that when management received the Captain's progress report, AVAir should have responded in some positive manner. Failure to respond can be accounted for by the turmoil the company was experiencing. A prudent course of action would have been to quickly provide her with remedial training and additional flight checks, as needed. This was not done.

FAA Surveillance

Following the transfer of AVAir's certificate to RDU from RIC, surveillance performance by FAA achieved a low level in quality and frequency. Considering the events that occurred to AVAir in just two months before the accident, the Safety Board was at a loss to explain why there was no record that the primary operations inspector performed an enroute inspection of an AVAir flight, observed a flight training session or check ride, met the chief pilot or the manager of training, or even visited company headquarters.

The Safety Board thought that FAA surveillance should have been increased as a result of rapid expansion at AVAir, as well as its subsequent financial distress. Increased observation could have indicated to the FAA that AVAir was operating its Metro airplanes under inappropriate operations specifications which didn't prohibit FOs from performing takeoffs in marginal conditions. In this case the Captain would have been required to make the takeoff. More effective surveillance could have resulted in an improved AVAir management responding appropriately to reports about the FO's piloting abilities. Positive FAA surveillance also could have resulted in a thorough examination of AVAir's training program, which the NTSB believes was warranted after an AVAir Metro II had a dual engine failure and landed short of Dulles on 17 December 1987. Contributing to that accident were poor oversight of check airman, inadequate training of the captain, and improper in-flight planning by the crew.

PROBABLE CAUSE

The NTSB determined the probable cause of this accident was flightcrew failure to maintain a proper flight path caused by the FO's inappropriate instrument scan, the Captain's inadequate flight monitoring, and flightcrew response to a perceived fault in the airplane's stall avoidance system. Contributing to the mishap was a lack of company response to documented difficulties in the FO's piloting skills and inadequate FAA surveillance of AVAir.

APPLICATION TO MAC

Could it happen in MAC? MAC's standardization and evaluation, training, and inspection programs ensure the quality of our operations, but the people responsible for those programs can't be everywhere all the time. Every unit experiences periods of personnel turnover, most notably during summer PCS season. It might be okay for a professional athlete to play while not feeling up to par, but not professional pilots. *They need to be 100 percent effective.* ✈

Adapted from *NTSB/AAR-89/10*

MH-53 Pave Low.

The 1st Special Operations Wing

Any Time Any Place

By Maj. Thomas C. Weinzierl

(Editor's Comments: This was Maj. Weinzierl's last article as supervising editor for TMF.)

This month *TMF* takes a look at the 1st Special Operation Wing (1 SOW), located at Hurlburt Field, Fla. as part of our continuing series highlighting MAC's wings and how they meet their most pressing safety challenges.

But first, a little background. The 1st Special Operations Wing's mission is to organize, train, and equip Air Force special operations forces for global employment. The special operations mission focuses on unconventional warfare, including counterinsurgency and psychological operations during low-intensity conflicts.

The 1 SOW reports to 23d Air Force, the air arm of United States Special Operations Command. (For more on 23 AF, see the July 89 *TMF*.) At the direction of the National Command Authority, the 1 SOW deploys with specially trained and equipped forces from each service, working as a team to support national security objectives. As a result, special operations may be undertaken in enemy controlled or politically sensitive areas and covers a myriad of activities.

Naturally, due to the nature of this mission, they would prefer not to be seen by casual (or hostile) observers. The best way to prevent this, of course, is to perform the mission under conditions that make observation difficult—at night. This requires sophisticated equipment and well-trained crewmembers. Their equipment includes things like night vision goggles (NVGs), infrared sensors, including low light level television (LLLTV), night low-level terrain-following radar, inertial navigation systems, forward looking infrared (FLIR), and precision ground mapping radar, to name but a few.

But fancy equipment is not enough without the right people to operate it safely; in that regard, the 1 SOW does very well. It's a real challenge to operate aircraft as diverse as the MH-53J Pave Low and MH-60G Pave Hawk helicopters, MC-130 Combat Talon, HC-130 tankers, and AC-130 Spectre gunships.

Airplanes and helicopters can't tell you what makes a safe operation, but people can, so, as usual, I started my research into the 1 SOW's safety story at the most logical place — the wing safety office.

Lt. Col. Marvin Olson, 1 SOW Chief of Safety, greeted me and we got right down to business. He began with words I was to hear throughout my two-day stay: "Our day-to-day operations are

HC-130 tanker with Fulton recovery system.

MH-60 Pave Hawk.

right on the edge of the envelope. When compared to other MAC units, our envelope is very small." The envelope he mentioned relates to the combined demands of low-level, night, on-NVG flying, called for by the nature of the 1 SOW's mission. The 1 SOW also combines operational mission training with a "schoolhouse" operation for the Combat Talon and MH-53J. Also, the wing's 55th Special Operations Squadron, located at nearby Eglin Air Force Base, flies the only H-60s in the Air Force. The colonel continued to stress that, "The biggest challenge seems to be the heavy training load in these units, which, along with their operational mission, generates a very unique situation. Combine that with the fact we have five unique weapon systems, several with different cockpit configurations in the same type, then training and standardization become very critical parts of our everyday operation."

Safety and training to a high standard are interwoven into the wing's operation. It's tough to practice the wing's mission in the daytime, so when the sun goes down, the 1 SOW goes up. If possible, they try to minimize fatigue by scheduling training missions so they're completed at a reasonable hour. It's tough to keep up a constant schedule of night flying and stay rested, especially in the summer. All the wing's crewmembers contend with the mission's demands. Col. Dale E. Stovall (then 1st Special Operations Wing Commander), described a typical scenario: "Our aircraft, being air-refuelable, lend themselves to very demanding missions, many where we have to fly long hours to get to a place where we enter a low level environment, fly into a target area, engage a target under hostile defenses, and then leave the area low level and hit more tankers on the way out. You're talking about a twenty-hour mission. That's very demanding from a human factors standpoint. In aircraft such as the AC-130 and helicopters, you're unpressurized and subject to a lot of noise and vibration. So it's very fatiguing. It's one of our important safety issues, and we talk a lot about knowing your personal limits. We're subject to the same 55-130 regs as everyone else, yet when contingency planning starts, we're asked to stretch the limits. We're always asked in exercises 'How long can you fly, engage the target, and make it back to a recovery base?' You can't just go up and do that on day one. The training and conditioning we go through will go a long way in preparing us for those missions."

Crewmembers in the 1st face the same hectic family life as other MAC crewmembers, so resource managers keep a close eye on the flight schedule to balance the demands of the mission against a normal family life.

Another aspect of the 1 SOW mission other MAC wings don't contend with is the fact they carry and fire vast amounts of live ammunition on their AC-130H Spectre gunships, as well as their MH-53s and MH-60s. With two 20-millimeter (mm) Gatling-type guns, one trainable 40mm Bofors cannon, and one trainable 105mm howitzer, Spectre gunships carry truly impressive firepower and can deliver it with surgical precision. Of course, all that live ammunition also represents a very real safety hazard. As Col. Carl E. Anderson,

1 SOW/DO, put it, "We deal with live ammunition daily. We don't use any simulators as the fighter guys do. When we go out on a training mission, we use live ordnance, so our gunners have to be very proficient in munitions handling and safety. That is a very big part of our squadron safety program." So training and standardization, along with a strong safety program, again result in a top-notch operation, as evidenced by the MAC Explosives Safety Award and USAF Explosives Safety Plaque to go along with the MAC Flight Safety Achievement Award the wing received for FY 1988.

My trip revealed this unit's unique diversity, and filled me with the sense of excitement about the mission displayed by everyone I met. It's obviously a tough mission; flying at night, on NVGs, almost always at maximum gross weight, at 250 feet. But, as Colonel Stovall put it, "living inside a very small safety bubble," must bring out the best, because all I saw were people dedicated to safely completing the wing's mission. One other point I picked up is that everyone at the 1 SOW is proud to be part of MAC, and they depend on other MAC units to help them do their mission. Colonel Stovall made that point when he said, "We can't go to war without MAC. We can't self-deploy like many MAC units. So we need MAC strat and tac airlift units to get to the war." And that's what it's all about, isn't it? We're all part of the team, working to get the job done as safely as possible. Everyone at the 1 SOW realizes that destroying an aircraft in peacetime just makes the enemy's wartime job easier. When you're only a phone call away from the next war, you know that running a safe operation is the only way to insure you'll have the assets to go out and win it. ★

1st Special Operations Wing Units

8th Special Operations Squadron

The 8 SOS flies the MC-130E Combat Talon, a Lockheed C-130E airplane modified for special operations activities. The squadron's mission is primarily airlift, to get forces in, through either airland or airdrop, resupply them and, in some cases, get them out. Specialized aerial delivery equipment on the MC-130 includes onboard radar and computers. This system enables crews to locate small drop zones and deliver equipment and supplies with great accuracy in unfamiliar terrain, day or night. Aircraft modifications permit high speed aerial deliveries, permitting safer ingress and egress in hostile areas.

9th Special Operations Squadron

The 9 SOS flies HC-130P/N airplanes specifically modified for special operations activities. The squadron's mission is covert penetration of enemy territory to provide aerial refueling of special operations assets and infiltration, exfiltration, and resupply of special operations forces by airdrop or airland operations. The mission can be conducted day or night.

16th Special Operations Squadron

The 16 SOS flies the AC-130H Spectre, a heavily armed gunship. AC-130s can perform numerous combat roles, including close air support, interdiction, armed reconnaissance, and air base defense. They are equipped with infrared and low-light level television detection systems or sensors and a computerized fire control system. Armament includes two 20mm Vulcan cannons that fire 2,500 rounds a minute, a 40mm Bofors cannon that fires 100 rounds a minute, and a 105mm Army howitzer that fires up to four rounds a minute.

20th Special Operations Squadron

The 20 SOS flies the MH-53 Pave Low helicopter, a twin-turbine engine, single rotor, heavy lift helicopter used for airlift support of special operations and certain rescue missions. It is equipped with a retractable air refueling probe, external hoist, two jettisonable auxiliary fuel tanks, and armor plating and may be configured with three 7.62mm mini-guns or three .50 caliber machine guns to deliver suppressive fire. The MH-53's night/adverse weather, threat penetration capability is attained through its terrain following/terrain avoidance /ground mapping radar, central avionics computer, forward looking infrared receiver (FLIR), doppler/inertial navigation, and electronic and infrared countermeasures systems. This version of the H-53 is the most sophisticated helicopter in the free world.

55th Special Operation Squadron

The 55 SOS flies the MH-60 Pave Hawk helicopter and conducts peacetime, contingency, and wartime special operations missions to infiltrate, resupply, conduct combat rescue, and exfiltrate U.S. and allied special operations forces. It accomplishes this mission by flying long-range, low level, communications-out, night penetration of hostile or denied territory, using surprise, unique systems, night vision goggles, and detailed mission planning to avoid known threats.

Flying-Hour Milestones

15,000

709 MAS
SMSgt. James B. Grose

10,000

75 MAS
Lt. Col. Robert G. Podzimek

86 MAS
CMSgt. Jerry L. Harvey

167 TAG
SMSgt. Raymond T. Boarman

179 TAG
CMSgt. George A. Robinson

709 MAS
CMSgt. Waymond D. Deaton
MSgt. Kenneth R. Xiques

7,500

4 AF
Lt. Col. Howard D. Berkley
Lt. Col. Kenneth L. Gates
Lt. Col. Thomas J. Grenham
Lt. Col. James B. Grove, II.
Lt. Col. Jackie L. Hansen
Lt. Col. Robert P. Thomas
CMSgt. Harold G. Tilton
SMSgt. Robert Escamilla
SMSgt. Billy L. Hoglan
SMSgt. Jerome J. Forarre
SMSgt. David L. Scandalito
MSgt. Michael J. Boglarsky
MSgt. Raul Cavazos
MSgt. Walter P. Ferguson
MSgt. Michael L. Knox
MSgt. Raymond J. Lyon
MSgt. William R. Meins
MSgt. James E. Renshaw
MSgt. Steve J. Samsky
MSgt. David M. Spoons

14 AF/CC
Brig. Gen. Dale R. Baumler

20 MAS
MSgt. Probo J. Munoz

21 AF/DOV
Lt. Col. John A. Teske

164 TAG
SMSgt. Russell D. Leadbetter

166 TAG
Lt. Col. Tenney H. Wheatley, Jr.

5,000

HQ MAC
Maj. William R. Short

4 AF
Col. John B. Goodwin
Lt. Col. Peter Conforti
Lt. Col. Richard S. Evans
Lt. Col. Clayton T. Gadd
Lt. Col. Robert A. Montgomery
Lt. Col. Richard L. Sipp
Maj. David L. Arnold
Maj. Howard K. Gordon
Maj. John W. Howell
Maj. Gary E. Hudson
Maj. Roger P. Molnar
Maj. Robert S. Nicholson
Maj. Michael A. Niziol
Maj. Ross C. Robb
Maj. James J. Shimkus
SMSgt. Carpio Villarreal
SMSgt. Robert J. Wolski
MSgt. Francisco Benevides
MSgt. Freddie Holt
MSgt. Gary M. Langford
MSgt. Daniel McFall
MSgt. Gerald L. Nickel
MSgt. Brian E. Zar
TSgt. Thomas L. Eide
SSgt. John E. Howard

10 MAS
Maj. Kenneth W. Nord

11 AAS
Lt. Col. Peter S. Marchewka
Lt. Col. Donald W. Milam

15 MAS
Capt. Roger R. Reichman
SMSgt. George T. Brogdon
TSgt. Jeffrey R. O'Dell
SSgt. Christopher Peterson

21 AF/DOV
Lt. Col. Eugene W. Selby

17 MAS
SSgt. Gordon A. MacDougall

41 MAS
MSgt. Jerry W. Garvin

76 MAS
MSgt. Robert W. Chance
MSgt. Rickey Horton
MSgt. Benjamin F. Howell
TSgt. William A. Fielders
TSgt. Carl E. Hjort
TSgt. Alan B. Robbins
TSgt. Kim R. Rotroff

139 TAG
Maj. Timothy E. Luckenbach
Maj. John W. McWilliams

164 TAG
MSgt. Donald J. Boyd
TSgt. Merle R. Margot

166 TAG
Maj. Albert C. Altevogt, Jr.

167 TAG
Lt. Col. Virgil W. Lloyd
Maj. Jesse A. Thomas
SMSgt. Samuel A. Slaughter, Jr.
MSgt. Donald F. Rohrer

179 TAG
SMSgt. Gregory L. Eyster

310 MAS
TSgt. Alan R. Schnieber

Det 1, 616 MAG
Maj. Herbert S. Trapp/CC

HQ MAC/DOV
Lt. Col. James P. Halton

2,500

HQ MAC
Col. Frank M. Herndon
Lt. Col. Donald B. Hall
Lt. Col. Gary L. McCoy
Lt. Col. Larry W. Wessels
Maj. John T. Clatanoff
Maj. Joseph M. Hatlefield
Maj. Norman Weinberg

4 AF
Col. Jerry R. Rankin
Lt. Col. Wesley M. Bennett
Lt. Col. Richard J. Busboom
Lt. Col. Carl R. Cucully
Lt. Col. Frederick J. Foss
Lt. Col. John R. Gritsavage
Lt. Col. Thomas W. Johnson
Lt. Col. Larry L. Meinders
Lt. Col. Robert R. Noel
Lt. Col. Frederick M. Thurman
Lt. Col. Anthony D. Williams
Maj. Donald E. Abston
Maj. Thomas L. Baskind
Maj. Mark W. Bertz
Maj. Chris M. Bourgeois
Maj. James A. Bowden
Maj. Curtis N. Breeding
Maj. Robert O. Brines
Maj. Lamarat J. Buggage
Maj. Michael J. Bundshuh
Maj. Robert G. Carter
Maj. Michael W. Clouatre
Maj. Harvey L. Cooper
Maj. Stephan L. Croft
Maj. Richard Curry
Maj. Ross D. Dekraay
Maj. John P. Disalvo
Maj. David H. Dobson
Maj. Thomas W. Fell
Maj. Ven W. Fortinberry
Maj. Richard L. Highstrom
Maj. Bruce W. Himrod
Maj. Douglas M. Horuczi, Jr.
Maj. Richard E. Huntington
Maj. Paul A. Jones
Maj. Douglas F. Kennedy
Maj. David S. Klis
Maj. Shelby H. Lacroix
Maj. Pierre P. Lafoille
Maj. Albert T. Lagerda
Maj. Rex M. Little
Maj. Robert R. Luttio
Maj. John G. Madden
Maj. James P. Marcotte
Maj. Milton A. McLeod
Maj. Paul J. Morvant
Maj. Douglas F. Niolet
Maj. John M. Palanixa
Maj. William S. Patterson
Maj. David J. Pechauer
Maj. Robert M. Petersen
Maj. Michael S. Petraszko
Maj. James D. Price
Maj. Jerry R. Razer
Maj. Norman A. Rice
Maj. Carey W. Ripple
Maj. Charles C. Robertson
Maj. Roger M. Rose
Maj. Kenneth C. Seitz
Maj. Terry L. Self
Maj. John H. Serb
Maj. Michael B. Shannon
Maj. George P. Shannon
Maj. William J. Shiels
Maj. William P. Sims
Maj. John S. Skubik
Maj. James H. Smith
Maj. Stephen L. Smith
Maj. Larry J. Smith
Maj. Larry W. Snider
Maj. Kenneth N. Snyder
Maj. James A. Turnipseed
Maj. William J. Vantiem
Maj. Gerald C. Vonberge
Maj. Allan R. Wallinder
Maj. Ronald L. Weight
Maj. Raymond G. Yokiel
Maj. Victor A. Zielinski
Capt. James L. Alexander
Capt. Jessie L. Carroll
Capt. Mark L. Carter
Capt. Ralph D. Crittenden
Capt. Michael L. Dezendorf
Capt. Terry A. Duncan
Capt. Rodney L. Hamilton
Capt. Geary S. Hurst
Capt. Michael W. Huttner
Capt. Robert A. Katz
Capt. Thomas M. Kieffaber
Capt. Kenneth H. Landree, Jr.
Capt. Donald W. Lawaray
Capt. Steven R. Muir
Capt. Charles C. Orr
Capt. Jay R. Quinton
Capt. Stephen M. Renwick
Capt. Robert C. Ritchie
Capt. Richard J. Salas
Capt. Keith T. Spillman
Capt. James D. Wilson
1st. Lt. Kathleen A. Watson
SMSgt. Joseph E. Barber
SMSgt. Russell J. Clyne
SMSgt. Frank C. Davis
SMSgt. Maurice L. Marshall
SMSgt. Gerald D. Renner
MSgt. Lynn A. Arvidson
MSgt. Ronald S. Dickinson
MSgt. Louis DeMartino
MSgt. Larry L. Elit
MSgt. George X. Hefferon
MSgt. Robert W. Kelly
MSgt. Donald P. Lescamela
MSgt. Russel L. O'Neal
MSgt. Lewis D. Oblander
MSgt. Michael R. Quellette
MSgt. Henry G. Palma
MSgt. Donald E. Powell
MSgt. Michael A. Scaffidi
MSgt. William T. Shaw
MSgt. Carrol A. Steffen
MSgt. Donald Turk
MSgt. Howard W. Wilson
MSgt. Michael L. Zayan
TSgt. Robert A. Boschma
TSgt. Jeffrey D. Buesche
TSgt. Wilbur J. Cook
TSgt. Craig O. Cross
TSgt. Wayne L. Elit
TSgt. Gary G. Gosselin
TSgt. Sean P. Haran
TSgt. Michael L. Harper
TSgt. Kenneth Klemczewahi
TSgt. Peter J. Labarre, Jr.
TSgt. Edmund J. Madera, Jr.
TSgt. Terrence J. O'Shea
TSgt. Lance J. Pruett
TSgt. Larry C. Shippy
TSgt. Dale E. Taylor
TSgt. Larry W. Wyland
TSgt. Howard A. Young
TSgt. Niki Zachary
SSgt. Michael A. Benton
SSgt. Steven V. Martindale

11 AAS
Capt. Martin H. Arnold
Capt. Robert E. Halvorsen
Capt. Michael T. Hodges
Capt. Barbara J. Martin
Capt. Mitchell G. Packet
Capt. Wendy E. Willis

14 MAS
Capt. Michael A. Wicknick
Capt. Steven G. Wilson
MSgt. Roy A. Vandevanter
SSgt. Erith A. Hawkins
Sgt. William H. Workman, III

52 MAS
Lt. Col. Jack F. Peters
Capt. Enrigue Huerta, Jr.
SSgt. John L. Cooper
SSgt. Clynton H. Parsons

164 TAG
Lt. Col. Donald L. Eby
Lt. Col. Thaddeus D. Evans
Lt. Col. Donald H. Schendel
Lt. Col. Larry R. Strimple
Lt. Col. Douglas B. Weber
Maj. James E. Ballard
Maj. John J. Corrigan, Jr.
Maj. Daniel L. Geswein
Maj. Robert G. Herak
Maj. Donald G. Howard
Maj. Rexford H. Marquart
Maj. Michael D. Rudd
Capt. James D. Conrad
Capt. Stephen M. Egert
Capt. Edward W. Sadler
1st Lt. Kenneth E. McCabe
SMSgt. Michael A. Cyphert
SMSgt. Tim E. Bridgeman
SMSgt. Charles R. Ritter
MSgt. Carmine Barretta
MSgt. Larry M. Brooks
MSgt. Ronald A. White
TSgt. Steven R. Hudson
TSgt. Walter W. Leitenberger
SSgt. Larry R. Mullen

166 TAG
TSgt. Paul E. Taylor, Jr.

167 TAG
Capt. Shawn E. Hilvers
TSgt. William E. Black
TSgt. James L. Blackford, Jr.
TSgt. Billy E. Gillenwater, II.

179 TAG
Col. Warren J. Drouhard, Jr.
Maj. Thomas H. Criqui
Maj. Richard M. Green
Maj. Robert C. McKnight
Maj. Harvey M. Morris
Maj. John D. Varner
Maj. William H. Walker, IV.

442 MAW
Lt. Col. Martin D. Amelung
Capt. Donald R. Goforth
Capt. Michael W. Menz
MSgt. Robert P. McFadden
MSgt. Paul J. Sutherland
TSgt. Leonard J. Massottie
TSgt. Neil T. Tousignant
Sgt. Ronald W. Lindner, Jr.

932 AAG
Lt. Col. Richard A. Gill

Ranks and units are those at time of award.

Mother Greeneye Is Watching

Have you checked your thumb lately?

By Capt. Jerry M. Brewton
Det 1, 40 ARRS
July 1984

Filbert vividly remembered the day the chips were installed in his thumb.

"Don't worry," Dr. Jeckly had told him. "It only takes a couple of minutes and it won't hurt at all. You do more damage every time you cut yourself shaving."

"But Doc," Filbert protested, "I really don't want anything implanted in my thumb. Especially not a computer chip. What's it for anyway?"

"Progress, boy," the old flight surgeon said. "Everybody'll have one within five years. Your squadron just happens to be the first to get them. Now, let's see how this thing works. Put your thumb here on the scanner."

Filbert dutifully placed his thumb over the luminous green light emitting from a small box on the doctor's desk. He was surprised by the box's response. It spoke!

"Dexter, Filbert X., Captain, 074-00-3100, A-pos, aircraft commander, 1182 MAW, pulse 72, BP 128 over 84. I find you physically sound. Have a nice day."

"How did it do it?" Filbert asked.

"Simple," the doctor replied. "One of the chips has your identity on it. Name, rank, SSAN, the whole nine yards. The other is a miniature transmitter that constantly monitors your body's vital signs and blood chemistry. It can tell quite a lot about you in a single scan. The scanner is just an improved version of the kind supermarket checkers use. When you think about it, this thing has unlimited potential."

As time passed, Filbert began to realize that quite a few people must have been thinking about the scanner's potential uses. Restricted area badges became a thing of the past. Instead, scanners were used to identify and determine access—simply place your thumb over the scanners on the flight line or in the ops center. Once scanners were installed in all billeting offices, registration became a simple matter of placing your thumb on the scanner and you were signed in in a matter of seconds. Scanners in the clubs made it possible to charge meals with the flash of a thumb and a signature on the bill. By the time five years had passed, scanners were everywhere. Everyone had grown accustomed to them. In fact, everyone liked them. Then the changes began. The scanners became more powerful. They no longer needed direct access to identify and evaluate. They could literally read a thumb from a hundred yards. *And, they began giving orders.*

For years, scanners installed in the cockpit of every aircraft had remained silent boxes that spoke only when someone wanted to check his hearbeat to make sure he hadn't died of boredom on a long flight. One day, the scanners assumed a new role. They began making demands on the crews. Filbert learned about it six hours out of Charleston on a direct flight to Frankfurt.

"Captain Dexter." Filbert immediately recognized the mechanical monotone in his headset. He suspected some sort of malfunction and ignored the machine. It called again, "Filbert, I'm talking to you."

Filbert decided to break the monotony and entertain the crew by having a conversation with the black box. He turned to face it. "Yeah Greeneye, what do you want?"

Much to the entire crew's surprise the scanner answered. "Your blood sugar appears to be slightly elevated and my sensors detect a large amount of caffeine in your system. You need to eat something."

Filbert quickly realized the scanner's powers had been increased, but he had no intention of taking orders from a machine.

"Gee, Mom, I'm really not hungry right now," he said, and looked to his crew who were starting to chuckle at the scene.

"I said you need to eat something. If you don't, I'll burn your thumb."

Almost immediately, a sharp pain shot throught Filbert's thumb, proving the scanner meant business. Filbert winced. "You have the controls," he said, turning to his copilot. "I think I'll break out a box lunch."

Filbert had to admit he felt better after the sandwich and chicken leg, but he spent the rest of the flight eyeing the small scars on his thumb and wondering what would come next.

As they began their descent into Frankfurt the scanner spoke again—this time it seemed impatient with Filbert's copilot.

"Lieutenant Foople, if you don't put that cigarette out this instant I'll burn your thumb." Foople remembered Filbert's earlier experience and immediately extinguished the cigarette he'd just lit.

From that day forward, the scanners played an increasingly larger role in the crews' lives. From the moment a crew departed home station until they returned,

the ever-present green eye watched them. The slightest violation of aircrew discipline brought a reminder from the nearest black box. Failure to heed a warning resulted in punishment. Very few crewmembers could say they had never had their thumb burned for something. "Mother Greeneye is watching," became a standard warning.

Road trips became very boring affairs. No one dared stay in the bar one second past crew rest limits. One blink from the scanner was much more effective than any bartender saying "last call." With the scanner watching, last call was frequently well before closing time. The scanners in the transient quarters put an end to late night poker games, and even going off base provided no relief. You always had to face the scanner when you returned. You received an immediate evaluation when you passed the first scanner.

To make matters worse, the machines were beginning to sound almost human. "Good evening, Captain Dexter. It seems you've had a good evening. You've eaten well, no excess drinking, and you're back in time to get a good night's sleep." Or, "Lieutenant Foople, where the hell have you been? Straggling in here six hours before crew show. *And* your biological readings are a disgrace. Nothing in your system but German beer and pretzels. You won't be flying tomorrow. Remember this the next time you try to fool me." Foople staggered away, clutching his burning thumb.

The machine even seemed to develop a sense of humor. "Good morning, Sergeant Oxnard. Where were you last night? Your bio readings are in perfect shape so you couldn't have been out with the boys. Oh, Chanel 19, my favorite fragrance. Good thing I'm not into blackmail."

Even with a sense of humor the machines were universally hated. Everyone harbored a secret desire to smash those probing green eyes with a hammer. It took a near disaster to change Filbert's opinion.

"Filbert, your bio readings have become very erratic—pulse and BP are way up and your system is saturated with adrenalin. Is something wrong?"

"Just once Greeneye, I wish you'd shut up! Is something wrong? Hell, everything is wrong. We have an engine out, the field is right at minimums with blowing snow, there's a 30-knot crosswind, our alternate is closed for ice on the runway, we burned most of our fuel in a holding pattern, the last plane down final went around because he hit a severe wind shear at 300 feet, and now our nose gear is indicating unsafe. And you ask if there's something wrong? If you weren't a machine you'd be a little hyper too." Greeneye didn't respond.

Filbert's mind raced as he tried to evaluate all that could happen on the approach. He'd just finished briefing his crew for the second time when the scanner spoke.

"You can do it, Filbert. I know you can. I've just evaluated your records. You flew an engine-out crosswind approach just 28 days ago. You've made approaches in weather as bad as this six times in the last five months, and you've landed on slippery runways hundreds of times. That wind shear will be exactly like the one you had in the simulator last August. Just take things one step at a time and we'll be fine."

For once the scanner's voice had a very soothing effect on Filbert. The approach was flawless, and Filbert was in line for a round of well deserved "attaboys."

Later, in his room, Filbert eyed the scanner as he sipped a coke. "You there, Greeneye?" he questioned.

"I'm always here, Filbert."

"I, uh, just wanted to say thanks for the help."

"My job, Filbert."

"I thought your job was harassing aircrews, not helping them out of tight spots."

"My job is keeping you mentally and physically ready to fly. I do it well. There are many days when you can get by with hangovers, hypoglycemia, or someone who's half asleep. Then there are days like today when everyone has to be ready to give 100 percent mentally and physically. Your crew had flown 35 hours in the last six days, but today they were ready. Maybe because of my harassment or maybe because they're all professionals. Either way, they were ready. All I did was remind you that you'd done it all before. You're the ones who flew the aircraft and brought it in safely."

"Well, Greeneye, I used to hate you. But I don't anymore," Filbert mumbled.

"It doesn't matter, Filbert. I'm just a very complex computer program with a specific job to do. There are no feelings involved. Now you need food and rest. If TA works a miracle on that pig you rode in today, you're flying again tomorrow."

"Are you going to burn my thumb if I have a couple of beers to celebrate tonight?"

"You know I will."

Filbert grabbed his jacket and headed out the door. After he'd left, the scanner's green light moved slowly about the room as if searching to make sure he was gone. Then it flashed a picture that covered the entire wall, men and women of all ages wearing flight suits. "Mother Greeneye has so many children," it hummed. "I'll take care of you." ✈

The Way It's Done!

By Capt. Jake Campbell
2875 Test Sq, Warner Robins Air Logistics Center, Georgia.

"I knew he was serious when he said "we're gonna practice this."

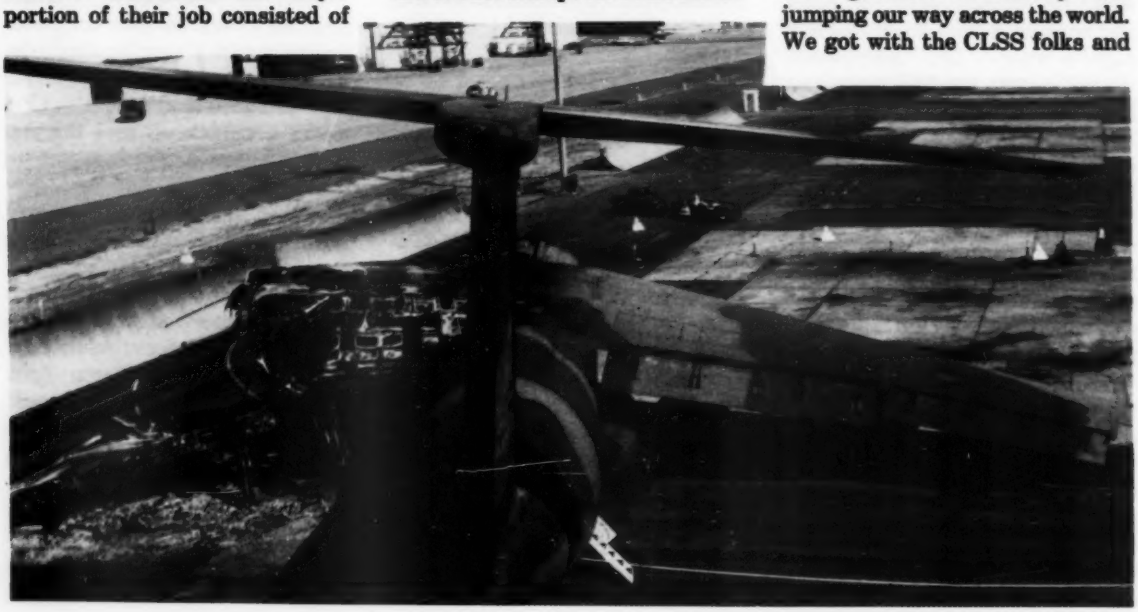
These were the words of CMSgt. A. "Doug" Mitchell during the debrief after two flights in "balls twenty-nine." He's referring to our practice bailout drill with parachutes on.

The mishap investigation board said this Starlifter wouldn't fly again, but the folks at Warner Robins Air Logistics Center (WR-ALC) and Military Airlift Command had other ideas. C-141B 67-0029 was a mess after a mishap at Iwakuni MCAS, Japan, in 1987. The landing gear was ripped off, an engine lay unceremoniously in the mud, a major portion of the right wing was burnt off, and the cargo compartment was a twisted mass of aluminum. The major portion of their job consisted of attaching the right wing from another C-141 that had its left wing burned off in a stateside mishap. After two years of diligent, painstaking work by the 2955th Combat Logistics Support Squadron (CLSS) and numerous WR-ALC personnel, 029 was ready to fly. It went something like this . . .

I'm a test pilot assigned to the 2875th Test Squadron, and my bread and butter comes from testing airplanes after they've been torn apart and put back together. I've seen a lot of things this airplane (the C-141) can do to a crew, including fires, multiple electrical problems, massive system failures, etc, etc. After all I've seen at WR-ALC, I still had to step back in awe at what they did to 029. Except for some minor differences (such as the DD250 serviceable tag painted on the side of the airplane) this plane looked like a ready-to-go 'lifter.

The crew for this flight had to be the most qualified we could get. With me from WR-ALC was MSgt. A. J. Spry, a meticulous test flight engineer extremely capable of "watching my back." Augmenting us were Lt. Col. Vane Hugo, Chief Standardization/ Evaluation, CMSgt. A. Doug Mitchell, Standardization/ Evaluation Chief Flight Engineer, both from 63 MAW/DOV; and SMSgt. Terry Brogdon, 15th MAS Flight Examiner Flight Engineer, all from Norton AFB, Calif.

The idea was to meet at Iwakuni, make a short confidence flight, then ferry 029 to Yokota AB for some final repairs before crossin' the pond. Sergeant Spry and I got there on Monday after jumping our way across the world. We got with the CLSS folks and



started figuring out what kind of shape we were in. We were pleased that 029 was in generally good shape. The back mount for the right main gear had broken off during tests just before we arrived. Parts were coming from Georgia and would be at Yokota waiting for us. So all our flying would be gear down (at least the mains) until Yokota. SMSgt. Ben Pate, NCOIC for the project, said he needed until Wednesday night or Thursday morning to get 029 ready for us. Colonel Hugo, Chief Mitchell, and Sergeant Brogdon were spread all over the Pacific doing what senior flight examiners do best—jumpin' on line crews to keep them on their toes. I made some calls and alerted them to head my way. The Chief got there first on Wednesday about supper time; he's about average height, but shaped like an upside down pyramid and walks like he's looking for an airman to eat. Sergeant Spry and I bounded up on the arriving Starlifter and introduced ourselves. We were on our best behavior which, Chief Mitchell would later tell, instilled a lot of confidence in him. We all went to billeting and called it a night.

Sergeant Pate turned the plane over to us on Thursday morning as he'd promised, and we went to work. The flight test business is a very meticulous job, where every detail about a plane's status is reviewed before operating it. We do long and tedious briefings with the air and ground crews that involve discussing every write-up. Chief sat quietly as Sergeant Spry and I drilled the MX folks. Finally happy that 029 was okay for us to operate (over an hour after we started), we headed for the plane.

Sergeant Spry and the Chief started their preflight while I donned some coveralls for a descent into "The Center Wing Box." It's a dark, forbidding place where the wings are bolted on and fuel passes by the ton. I am 6'2" and over 200 pounds, and that little hole you've got to crawl through is quite a challenge. I asked the Chief if he'd like to go with me—he said maybe at Yokota.

All checks done, we found Sergeant Pate and his men had done a very nice job. A couple of minor problems that were fixed immediately, kept us working through lunch as we shook 029 down. A max power run and high speed taxi assured us 029's wings and engines were attached to stay. That built up our confidence and pushed back the apprehensions a bit—after all, this was a condemned plane and nobody had ever done this before. Our well-placed faith in Sergeant Pate and his boys made this job easy. They'd need the plane all day Thursday to do another preflight and fix some minor stuff we needed.

The Chief, Sergeant Spry, and I put her to bed for the night,

eager to turn JP4 into flight on Friday. The colonel and Sergeant Brogdon came in on the next Starlifter Thursday morning. We greeted them and took them to billeting. Later we all went to the airplane and briefed them on everything. Friday came, and we all had a good breakfast before going to the plane.

Some more flight test stuff involves the use of parachutes. Some folks think you're a little crazy to think you could get out of a falling -141 (after all, if it weren't falling, you wouldn't be trying to get out) but I'm at least going to have the option. Flight test crews talk about it all the time because each crew brief discusses egress in the air and who gets to jump first. If we had to jump out it would go this way: Five guys are in the plane, the pilot (left seat), the copilot (right seat), the flight engineer, the scanner, and what we call the safety observer. He sits in the jumpseat and keeps an eye on everyone during the exercise in task saturation we call a Functional Check Flight. The scanner (Chief) would act as the jumpmaster and stand by the door. He'd push jump seat (Sergeant Brogdon) out first, the copilot (the colonel) next and, when he sees the engineer (Sergeant Spry) and the pilot (me) heading his way, he's cleared to jump. The engineer would go next and, since he signed for the plane, the pilot gets to go last. Chief later asked me if I'd courtmartial him for just jumping as soon as he got to the door. I never answered him.

Since "line" guys don't have much exposure to parachute use, and we'd be wearing chutes for the first flight, I wanted the crew to practice once before we went up. We all donned our chutes and got in our respectives seats. One thing I did notice was the quiet, diligent expressions on the flight deck. "Bailout, bailout, bailout" came and everyone moved swiftly off the flight deck to simulate getting out. The drill went fine and adjusted everyone's frame of mind—we were ready to fly.

Sergeant Pate's crew had, by now, completed their two-foot by three-foot DD Form 250 serviceable tag, which was prominently displayed a couple of feet from the crew entrance door. All the votes were in and it was unanimous—let's fly!

"The flight station door was beating itself to death . . ."

Strapped in and taxiing. Talk at a minimum. All our senses were dedicated to making sure we hadn't missed anything. One more max power run and we were sure our Pratt and Whitneys were turning out their 80,888 pounds of push.

A light C-141 is a thing to behold as it takes off max power. 029 was stripped of all unnecessary equipment and, with our light fuel load, this 'lifter wanted to go! A max gross weight -141 can take a nerve racking 30 seconds or more to get takeoff speed. Not 029; we were gonna have about 10 seconds from brake release to decide if over two years of work was going to fly. The throttles came up. Checks good at 70 percent. Setting Takeoff Rated Thrust. Looks good. Brakes off, we're rolling. Everybody is scanning everything. The acceleration is fantastic. Probably the closest you can come to an F-15 takeoff in a heavy jet. The colonel calls GO! I pull the yoke back and we all stop breathing. IT FLIES! My plan is to go out over the water to 1,500-feet, turn around, and land back where we came from. Everything is good, 029 flies like any other -141 I've flown. I play with the controls and the response is predictable. Airborne about four minutes now and it looks good. Everyone is breathing again. I left the plane configured during the flight. Gear down (it wouldn't come up anyway), flaps at takeoff/approach, and essentially only one thing to change for landing—moving the flaps to the landing position.

We were flying with troop doors open, just in case. The air was flowing through the plane from the air conditioning system, unabated. As we turned final I called for landing flaps (got that from the operating manual), and just as the colonel moved the flap handle we got a loud banging noise I'd never heard before. Initial response: "What the hell is that?" Aircrews are taught to go back a step if the step you just took makes something bad happen. This noise sounded bad. Was it the flaps? Chief Mitchell knew but was too busy trying to stop the noise to tell us.

The flight station door was beating itself to death trying to compensate for air flow and airplane angle. The Chief, with his seatbelt on and a 50-pound chute hugging him, was desperately trying to secure the door and key his interphone to talk. I still don't know who said it but "It's okay, it's just the door" came soothingly over the interphone. Landing and rollout were uneventful and, after three stops during taxi in to look at our smoking brakes (all new brakes tend to smoke on landing as any residual fluid and dirt is burned off), we were back in the chocks shaking hands with Ben and the boys!

QUICKSTOPPERS

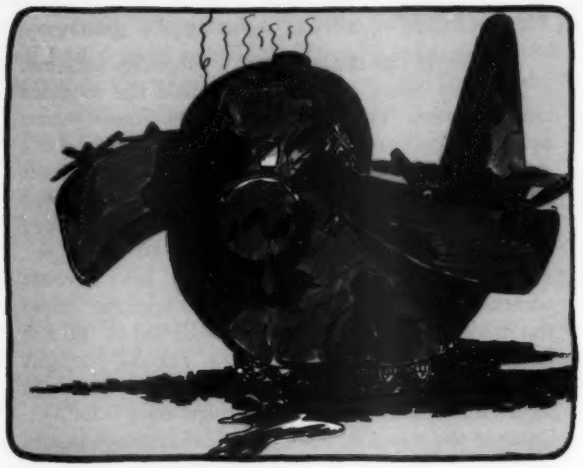
COOLING FAN—2, CREW—0

While on the initial leg of a three-day mission, a C-5 crew heard a loud bang inside the avionics compartment. The flight engineer's investigation revealed a collapsed cooling air duct. Concerned the damaged duct would interfere with equipment cooling, he attempted to remove the collapsed assembly. When he placed his hand inside the duct to get a better grip, a fan blade nicked his finger. After reporting the incident to his aircraft commander, our now-damaged flight engineer asked the loadmaster for a band-aid but failed to tell the tale of how he received his injury. The AC thought the incident was certainly a one-time occurrence so didn't mention it during subsequent crew briefings. Later in the mission, during ground operations, the avionics compartment door was left open with the cooling fan once again in operation. The Good Samaritan loadmaster noticed the removed duct lying on a crew bunk and entered the open compartment. As luck would have it, he also placed his hand where the duct should have been and once more the cooling blade struck home. This time most of the end of the intruding digit was severed and the bone above the cut, broken. A lack of simple communication resulted in the loss of part of a thumb. End result, one permanent partial disability.

GOING UP?

The UH-60 was taking part in a seven-ship troop airlift mission. Upon landing, the passengers quickly exited the still-running aircraft and prepared to seek and destroy their imaginary foe. In his haste to assume the battle position, one warrior dropped his individual issue sized cardboard box of blank ammunition and was in danger of reducing his weapon to the status of club. However, the day appeared saved when the ever-vigilant crew chief spotted the errant ammo box, retrieved it, and attempted to throw the blanks back to their rightful owner. Unfortunately, the updraft caused by the turning rotor blades was strong enough to intercept the "in-flight" package and pull it into the blades. Result? Blank bullets evenly distributed throughout the local area. While this is certainly a quick way to distribute ammunition, it's awfully hard on rotor blades and should be discouraged in the future.

QUICKSTOPPERS

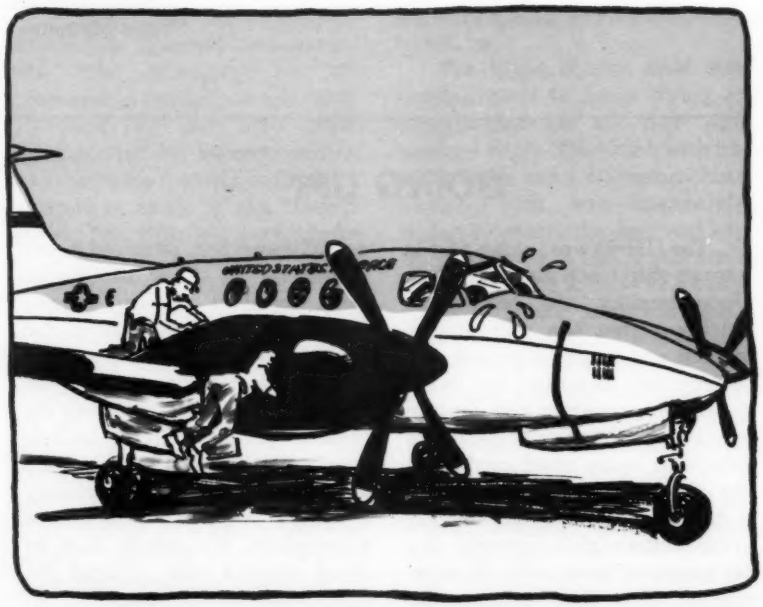


FICKLE FUMES FOIL FLYER

Shortly after takeoff, hydraulic fumes became evident in the AC-130H's cargo compartment. As the illuminator operator leaned over to examine the auxiliary hydraulic system to find the fumes' source, he was sprayed with hydraulic fluid from the fluid catch pan. Crewmembers immediately closed the auxiliary hydraulic drain valve and helped the unfortunate operator rinse his eyes with water. He soon complained of eye irritation. The airplane returned to base where doctors examined the stricken crewmember. He was pronounced fit to fly the next morning. Investigation revealed that, in an unpressurized C-130, spray from the hydraulic fluid pan may develop shortly after takeoff and contaminate the cargo compartment.

SO THAT'S WHERE IT WENT!

While on climbout, a C-12 IP attempted to simulate an engine failure by retarding the right power lever, only to discover the engine would not go below 79 percent. The crew decided to shut the engine down and flew a single engine approach and landing. Maintenance examined the right engine compartment and found a generator contact cover jammed under the throttle linkage. Prior to this flight, maintenance had discovered the left engine generator cover missing but the right one in place. They failed to find the missing cover, replaced it with another, and cleared the aircraft for flight. Moral of the story: Engine parts are like crewmembers—you should end up with as many as you start with.



FUEL GAUGES, CHECKED—Are you sure?

An airline Captain filed the following report, describing how he made a mistake and why, when he might have covered the error, didn't do so. He felt that honesty might serve to mitigate official retribution, but the paramount aspect was his sense of responsibility—to his passengers, his fellow crewmembers, his employer, and himself. With the pilots beset by schedule delay and distracted by a jumpseat rider and ramp agent, the ENGINE START checklist was interrupted; the flight was "standing by for fuel."

"... inadvertently missed the only reference to fuel on any of our checklists. During taxi, I did glance at the fuel gauges, but since it wasn't in response to a checklist, I only noted the gauges looked 'about right.' The next time I glanced at the gauges we were at cruise, about 20 minutes into the flight. This time they didn't look 'about right' and I immediately realized what had happened. I calculated we had enough fuel to reach our destination, but inadequate fuel to reach the required alternate. Because there was a nearer available airport than our original destination, I chose to land there rather than risk continuing on ... I knew that by landing short I was in effect 'turning myself in,' but I chose that because *ANY* unnecessary risk was unacceptable."

Courtesy *Callback*

ABUSED A-3 BAG ATTACKS LOADMASTER

A C-130 was about to taxi when the loadmaster's sensitive nose detected a strong, acrid smell in the cargo compartment. The load informed the AC and was then joined by a flight engineer to help find the fumes' source. The search led to an A-3 bag filled with the crew's NVGs. When the inquisitive LM opened the bag, fumes given off by a ruptured lithium battery took his breath. The battery was two years old. How long it had been in the NVG was anybody's guess. How long has it been since you last checked the batteries you depend on? And last but certainly not least, any unidentified (and most identified) fumes should be presumed hazardous. Don your O_2 mask first, then find the source.

QUICKSTOPPERS

WHAT'S IN THE BOX

(December 1981)

Shortly after level off at FL 350, the Starlifter crew noted some peculiar fumes coming from the cargo compartment and from one box in particular labeled "ROCKET MOTOR." The scanner and loadmaster started feeling nauseous and developed headaches. All crewmembers went on oxygen and the aircraft made a quick landing at a foreign base to further investigate the suspect container.

The loadmaster and scanner were met by medics who took them to the base hospital. Meanwhile, back at the plane, the foreign loading crew began unloading the botched box. Shortly thereafter, two of them began complaining of headaches and sore throats and were also taken to the hospital.

By this time, it was box 4 - people 0. Further investigation revealed the rocket motor had developed a sealant leak, causing caustic propellant fumes to escape and wreak havoc with the crew and load team. After a new plug was installed, the shipment was recertified—for surface transportation ONLY!

FOOLISH PATIENT

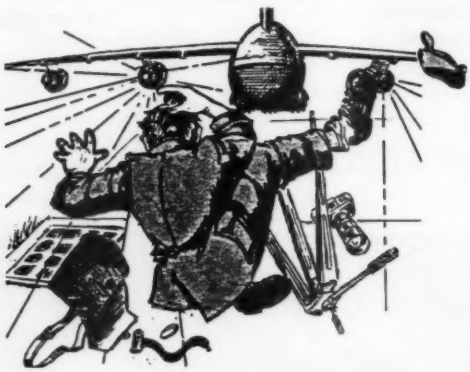
(March 1981)

It has been said that a man who attempts to act as his own lawyer has a fool for a client. In a similar vein, it could be said that a flyer who attempts to act as his own flight surgeon has a fool for a patient, as the following episode once again proves.

A flight engineer had been suffering with intermittent sinus problems for about three weeks. Not wanting to go DNIF, he proceeded to dose himself with a nasal decongestant and keep pressing. While on a local training mission, his "temporary relief" expired and he experienced a sinus block so excruciating it caused him to start hyperventilating on the spot.

The crew thought he was having some kind of a heart attack, so they declared an emergency and landed ASAP. A flight doc thoroughly checked out the flaky flyer and pronounced him medically fit, except for his sinuses, and not in immediate danger of cardiac arrest.

He didn't escape, though, without getting rebriefed on the negative ramifications of those old twin bugaboos: flying with a cold or sinus problem and prescribing medication for yourself without a sheepskin and an AFSC authorizing you to do so.



ON-THE-JOB STRAINING

(April 1981)

An eager young Air Force photographer was shooting pictures of various airplanes landing and taking off as part of his on-the-job training. Things were going swimmingly and he was getting some great shots until a C-5 came trundling down the taxiway and lined up for takeoff.

The photog was standing 10 ft from the edge of the 150-ft wide runway, and about 25 ft behind the C-5's outboard engine. As the fan jets spooled up for takeoff, the lensman lost his balance in the hurricane-force jet blast and suddenly found himself airborne along with his camera, tripod, and other gear. He crash landed several feet downwind on the asphalt, scraping his knee in the process.

He was very fortunate to get away with only a banged up knee because, according to the C-5 Dash One, even at taxi power the blast as far as 50 ft behind the Galaxy's engines is a 150 degrees F gale moving at 120 mph. Definitely a hostile environment for people, or just about anything else for that matter.

After Deadlines

CONTACT LENSES FOR AIRCREW MEMBERS. Many aircrew members can now wear soft contact lenses and the Air Force will provide them for active flyers who are required to wear night vision goggles as part of their mission. All other aircrew members, after being cleared by the flight surgeon, may purchase lenses at their own expense. A word of caution: wear of contacts may subject your cornea to dehydration and abrasion; so check with the flight docs before you risk your eyes.

DOD NOTAM SYSTEM MERGED WITH FAA SYSTEM. Automation of the NOTAM system has raised many questions and generated a few HATR messages. The format has changed and through use of "Q" codes, NOTAMs can be printed out for appropriate aircrews. These "Q" codes describe the majority of NOTAM events, and are described in the Flight Information Handbook. The code will always be followed by clear text remarks. Due to a software error the "Q" codes are printing out. According to the folks at the USAF Instrument Flight Center the problem will be corrected soon. Although the format is different from the old system, aircrews should see a noticeable improvement in real time information and readability over the next few months.

REGRETS TO THE 64 TAS. We didn't really mean to convert your unit from AFRES to ANG on the July Roll of Honor. We sincerely regret any distress this may have caused.

DOVER C-5s DELIVER BRIDGE. Two Galaxys from 463 MAW delivered bridge parts, weighing more than 250,000 pounds, to Islamabad, Pakistan, on July 9th and 10th. The bridge will be erected in Afganistan, replacing another which was destroyed.

HURRY! HURRY! HURRY! Get them before they get you!